



Australian Government



DUGONG AND TURTLE  
PROJECT NEWSLETTER

Torres Strait Regional Authority & NAILSMA

# Dugong and Turtle Project

ISSUE 4

OCT / DEC 2007



Kenny Bedford at Daru Airport. Photo by Sam Emerick.



Daru market. Photo by Sam Emerick

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## Project Officers attend Bilateral Meeting in Port Moresby

From 1 to 4 October, Project Officers Kenny Bedford and Terrence Whap travelled to Port Moresby, Papua New Guinea (PNG), with officers from the Torres Strait Regional Authority (TSRA) and the Australian Fisheries Management Authority (AFMA) to attend a Bilateral meeting. These meetings are held between Australia and PNG each year and are a forum where various issues, including Torres Strait Fisheries, are discussed.

The travelling party visited Daru before heading to Port Moresby. The stop over gave time for the group to visit Daru's markets and see the variety of seafood, garden foods and meat available. The day's catch arrived late in the afternoon with a lot of fish coming into the market along with some turtle and dugong.

The following morning the group flew to Port Moresby and attended a briefing session with the Australian High Commission before attending the meeting.

Kenny and Terrence along with TSRA's Land and Sea Management Unit's Lachlan Sutherland and Damian Miley, presented an update on the Dugong and Turtle Project to the Australian and PNG Government delegates. Kenny and Terrence were the first Traditional Inhabitants to take part in the Bilateral meeting.

Terrence talked about the importance of good communication within and between communities about fisheries management. He informed delegates that management of dugong and turtle was very important to his people

of Mabuiaig. Kenny updated the meeting on his work at Erub and his involvement with the surveys being undertaken at Bramble Cay. He also talked about Torres Strait Islanders working together with PNG villagers from the Western Province. Kenny also encouraged the PNG Government representatives to support a similar community based management project, with support from the Australian Government. The Australian Government

has provided funding to support a Dugong and Turtle workshop on Daru. This workshop may provide a good chance for Torres Strait Islanders to start working with PNG villagers to look after dugong and turtle in the Torres Strait.

For more information you can contact Kenny at Erub Island Council on 4069 4001 or Terrence at Mabuiaig Island Council on 4069 4184.

## Cardwell Land & Sea Conference: update from Stephen Ambar

Hi, my name is Stephen Ambar. From 9-12 October, I went to Cardwell for the second National Indigenous Land and Sea Conference (NILSC). My grandmother is a Gugu Badhan woman from Mission Beach area near Cardwell.

I also attended the first NILASC in Alice Springs in 2005, it was a very good opportunity for me to meet other Indigenous Rangers who were doing jobs similar to mine, so at this year's Conference, it was very important for me to meet and catch up with people.

My presentation was mainly about the work I have been doing on Hammond Island, such as managing introduced weeds and feral animals, and my involvement with the ghost-net work. I also talked about how Hammond Island Rangers have also been working with various government departments as well as a James Cook University (JCU) student from

Townsville to conduct turtle and dugong work with the Kirriiri (Hammond Is) and

Waibene (Thursday Is) communities.

I also informed them that there are four people from Hammond Island studying Indigenous Conservation Land Management at Cairns T.A.F.E. and told them that I believe more Indigenous people should be in this line of work. If you want to talk to me about the Conference, please call me via Hammond Island Council on 4069 1301.



Photo of participants who presented at Cardwell Land & Sea Management Conference. Photo by Lachlan.

# Dowar Turtle Training & Nesting Surveys



Moses Wailu, Mer project officer preparing to release a satellite tagged turtle. Photo by Lachlan.



Tagai College, Mer Campus students watch Michael Morris work on a turtle on Mer.



Sunrise over Waier. Photo by Lachlan

Mer Island Project Officer, Moses Wailu and his community, hosted a turtle training and nesting survey program at Dowar Island from 3-7 December.

The program was a collaboration between James Cook University (JCU) and the Torres Strait Regional Authority (TSRA). Along with Moses, Project Officers Pearson Wigness from Horn Island, Kenny Bedford from Erub Island as well as Rangers Stephen Amber from Hammond and David Amber from Mabuig with community members Michael Morris (from Masig), Pensio Nawie and Rob Bollinger (from Erub) participated in the one week event.

Dr Mark Hamann and Mariana Fuentes from JCU were on hand to provide expert training to the participants.

Project Officers were involved in nesting



Michael Morris from Masig tagging a turtle at Dowar just after she finished nesting. Photo by Lachlan.

surveys, tagging and measurement of nesting turtles

and the installation of satellite trackers on two turtles caught nesting at Dowar.

Project Officers also assisted Mariana Fuentes in her temperature survey work at Dowar Island (see the article on page 4 for more information about Mariana and her work).

Although there were not many turtles nesting this year, the participants still enjoyed themselves and learned a lot.

Michael Morris from Masig, when asked about how he was finding the Dowar trip said, "I am just glad to be here at Murray Island with the crew, it is a good experience, it has opened my eyes and has changed my concept too of looking after the resource. I have learned a lot of things over the past couple of days, asking questions and seeing it for myself".

Michael also said that this type of training gives "that knowledge and a better understanding" and an opportunity to mix "the way we are taught and the way the biologists are teaching us".

Stephen Amber said of the training, "I am very happy to be part of this exercise at Murray Island. Unfortunately there are not much large turtles for us to tag out here. But we will definitely be out here again next year if we can get funding and support".

Each night the group walked the northern beach of Dowar every 30 minutes, in search for nesting turtles. After nesting, each turtle was tagged, measured and other details of the turtle such as if it nested, where it nested or if it had any injuries were noted down.

Mark Hamann and Mariana Fuentes also provided western scientific information to the participants throughout the week.

Mark said that JCU through the Marine Tropical Scientific



Michael, Moses and Mark Hamann watching a turtle laying eggs, Dowar.

Research Facility (MTSRF) is really keen to work with the Project Officers doing training such as at Dowar and earlier in the year in Kaiwalagal. We want to help get small scale turtle projects started off and then grow into bigger things later on, like we did at Hammond Island.

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## Satellite Tracking Dowar's Turtles

During the week long turtle training and nesting surveys at Dowar Island, Project Officers were involved in attaching satellite trackers on to two turtles. These turtles were caught after nesting at Dowar.

After explaining to the Project Officers and a small group of Mer residents how the satellite trackers worked, Dr Mark Hamann assisted Project Officers to attach the trackers.

The shells of each turtle were scrubbed and cleaned to remove any algae. Dr Hamann explained that algae can weaken the glue used to attach the trackers, so it was important to remove it first.

Then the trackers were turned on using a small magnet and their signal was tested. The trackers have a battery that lasts around one year and is designed to turn on each time the tracker comes out of the water (when the turtle spots to breathe).

Glue was then placed on the cleaned shells and on the base of the tracker. The tracker was then placed on the shells of the turtles.



**Attaching the satellite tracker to the turtle shell.**

A further two coats of glue was used to cover the tracker and to secure it properly to the shell.

Students from Tagai College's Mer Campus, also came down to watch the Project Officers place the trackers on the turtles. Pearson Wigness from Horn Island explained to students how the trackers worked and invited the students to name the turtles. The students named the turtles Ottil and Mrytle.

The students then fare-welled the two turtles when they were finally released. To date Myrtle has returned to nest at Dowar and now both Ottil and Mrytle are on Mebgor reef near Mer.

Stephen Amber recalled his Hammond Island tracking experi-

ence, "I reckon that turtles are very fascinating things when scientists explain things in detail. As a community we were not aware that when female turtles come up to lay their eggs, they can do so for up to 6 or 7 times during the nesting period. My community was shocked to find out about that. So its very good to work with scientists for the benefit of our people".

The trackers will stay on the turtles for around six months until they shed their scales. For the next six months Mer and other communities through Torres Strait will be able watch the movements of Ottil and Myrtle.



**Mer students help Myrtle return to the water with her new satellite tracker, Mer.**

Regular update maps will be provided to Mer community and Project Officers over the coming six months. If you want to keep up to date of Myrtle and Ottil travels, you can ring Lachlan or Frank on 4069 2947.



**The face of Geilam at Mer.  
Photo by Lachlan**

*"I reckon that turtles are very fascinating things when scientists explain things in detail",  
Stephen Amber  
Senior  
Hammond  
Island Ranger.*

## Dowar Turtle Training & Nesting Surveys cont.

When asked about future community-based turtle and dugong research Dr Hamann said, "I really hope the enthusiasm that currently exists in the Project Officers and TSRA can just keep going from year to year.

If we can maintain that enthusiasm and get the next generation involved—this is how

community based dugong and turtle management and research will work in Torres Strait".

On behalf of all the participants, the TSRA's Dugong and Turtle Project team would like to thank the traditional owners of Mer and Dowar their support and particularly thank Moses for his hard work in

setting up the event.

If you want more information contact Frank Loban at TSRA's LSMU on 4069 2947.

## Mariana Fuentes—Turtles and Climate Change Research



Mariana Fuentes doing survey work at Dowar. Photo courtesy of Mark Hamann.

Hi my name is Mariana Fuentes. I come from Brazil in South America. I am doing turtle research at James Cook University (JCU) in Townsville. In my studies I am looking at how climate change is affecting turtles. This article is a short background to my work.

Increase in temperature due to climate change may have big impacts to sea turtle populations. Being reptiles, sea turtles are heavily reliant on environmental temperature to help their bodies to work properly. Temperature can affect turtle food digestion, success of mating and hatchling development.

Temperature has a strong effect on turtle nests. The temperature of sand that surrounds the eggs laid by sea turtles determines the

sex of hatchlings and how healthy they grow. Sex of hatchlings is determined by sand temperature, and warmer sands produce females (more than 29°C) and cooler sands produce males (less than 29°C). Loggers are placed in open sun as well as shaded areas and in areas close to the king tide mark. These areas all seem to produce different sand temperature.

Successful hatchling development only occurs within a narrow temperature range of between 25 to 34 degrees celsius, prolonged exposures to temperatures above 34 degrees celsius causes injury and death of eggs and hatchlings.

With this in mind I am monitoring the sand, air and water temperature at major nesting grounds for the northern Great Barrier Reef green turtle population. This research will

help look at the impacts of climate change on sea turtles.

Over 20 loggers have been placed in Torres Strait at Hammond and Dowar Islands, and at Bramble Cay, to record hourly temperatures. These loggers will collect temperatures for three years.

Mariana has been working with Kenny Bedford, Project Officer at Erub and Moses Wailu, Project Officer for Mer to install and download the first year's data. This data will also provide insight into the ratio of female to male turtles that are being produced at nesting areas in the Torres Strait.

If you want to find out more you can contact Mariana on [mariana.fuentes@jcu.edu.au](mailto:mariana.fuentes@jcu.edu.au)



## Dugong and Turtle Project Officers complete Coxswain Course

A number of Dugong and Turtle Project Officers as well as Land and Sea Rangers from around Torres Strait have recently passed their coxswain training.

The group included Kenny Bedford from Erub, Charles David from Iama, Moses Wailu from Mer, Pearson Wigness from Horn, David Amber from Mabuig and Ishmael Gibuma from Boigu.

Pensio Nawie and Rob Bollinger from Erub also participated.

These men have been working with Kenny Bedford on the turtle conservation work at Bramble Cay.

It is the third group training opportunity that Project Officers have become involved in this year, and has provided a great occasion for the small crew to work together, share ideas and meet Land and Sea Rangers from the Torres Strait. Hammond Island and Kaurareg Rangers also participated.

Rob the coxswain trainer from TAFE was impressed with the participants and said that all Project Officers passed the training. The main aim of the coxswain is ship board safety. The Project Officers all have a large amount of sea time experience but this training will allow Project Officers to work and prepare more safely in the marine environment.

TSRA'S LSMU Dugong and Turtle Project team extend their congratulations to those who passed the course.



Charles David and Rob Bollinger taking part in practical training for their Coxswain, Thursday Island. Photo courtesy of TAFE QLD.

# Dr Col Limpus talks to TSRA Board about Turtle Management

Dr Col Limpus an Internationally renowned turtle scientist with over 30 years experience visited Thursday Island in October to talk to the TSRA Board.

The purpose of his visit was to give the Board an update on the condition of turtle populations in Australia. He also talked about the green turtle nesting population in the northern Great Barrier Reef. This population makes up a large number of the turtles that live and feed in the Torres Strait.



**Nesting Green Turtle on Raine Island. Photo courtesy of Dr Col Limpus**

In some seasons Raine Island has up to 80,000 green turtles nesting!

Every year a team of scientists live at Raine Island for two weeks during the nesting season. Every night of the two weeks the scientist tag turtles, take a number of measurements on turtles, check them for tags and monitor how well they are nesting.

Dr Limpus spoke strongly about the crisis that is occurring at Raine Island. The size of nesting green turtles is slowly dropping and this suggests that the larger turtles are being lost from the population. Dr Limpus said that this was probably from heavy hunting.

The research also shows that naturally adult turtles do not nest every year. This information comes from tagging work. The

records show that the number of years between the same tagged turtle coming to nest at Raine Island is slowly increasing.

Dr Limpus said that all of this information suggests a green turtle population that is in decline. These warning signs have been seen in other green turtle populations that have crashed in numbers.

The other major issue that Dr Limpus talked about was turtle nesting at Raine Island. Nesting surveys are showing that only 1 in 20 turtles are nesting properly. This is because the sand is getting too shallow to make nests. Turtles are hitting the bedrock underneath.

Because there is less sand, turtle nests are also now getting flooded with the ground water. Dr Limpus said that there has been very low hatchling success from Raine Island over the last 11 years.



**Turtle nesting into water filled hole on Raine Island. Photo courtesy of Dr Col Limpus.**

The turtle life cycle shows that it takes more than 30 years for a turtle to mature into an adult and start nesting. Dr Limpus said that with the lack of hatchlings coming from Raine Island it will be another 15-20 years before the real impact will be felt. This will be felt

in Torres Strait with less turtles coming back to live on the reefs.



**Raine Island, Northern Great Barrier Reef. Photo courtesy of Dr Col Limpus**

Dr Limpus provided the TSRA Board with some good ideas on how communities can help the northern Great Barrier Reef green turtle population.

1. Make sure at least 70% of all nests are left to hatch. That is only take 1 in every 4 nests.
2. Protect breeding females by hunting turtles less than 90cm in length (leave the big ones).
3. If nesting turtles need to be taken reduce take to only 3 in every 100 turtles (3% take).
4. Catch male turtles as well as females (try to make 1 in every 3 turtles caught a male).

Communities involved in making management plans for turtles could use some these ideas from Dr Limpus.

The Queensland EPA who Dr Limpus works for are trying to find ways to fix the sand loss problems at Raine Island. Meriam people who also have native title over Raine Island may want to be involved in any future work or visits to this place.

If you want to find out more or become involved please call Lachlan or Frank on 4069 2947.

**“In some seasons Raine Island has up to 25,000 green turtles nest each night!”**





**Torres Strait Regional Authority  
Land & Sea Management Unit**

### Dugong and Turtle Project Newsletter

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The Torres Strait Regional Authority, Land & Sea Management Unit (LSMU) is coordinating the NAILSMA Dugong and Turtle Project in Torres Strait.

The LSMU coordinates the delivery of regional and local level land and sea management initiatives, and supports communities to access additional financial and technical support and information about sustainable management of their environments.

The Unit operates out of the Four Winds Building above Gab Titui Cultural Centre on Thursday Island. For more information about the Unit contact the Manager, Damian Miley on 4069 2957 or visit [www.tsra.gov.au](http://www.tsra.gov.au)

The TSRA's LSMU wishes to acknowledge the Traditional Owners of the Kaiwalagal region, the Kaurareg people, on whose land we are writing and working from and all elders throughout the Torres Strait.

## Hammond Island Dugong and Turtle Meeting

Pearson Wigness, Project Officer at Horn Island, recently organised a community meeting at Hammond Island to discuss a dugong and turtle management plan for Kaiwalagal.

Although not many people turned up for the meeting, Pearson was made aware of a management plan developed by traditional owners at Hammond Island in 2004. This plan will be useful in the

development of a management plan for Kaiwalagal given the many communities and cultural groups living in this area.

Pearson has already held meetings on Horn Island and consulted with a number of different island groups who live on the island to get their perspective on dugong and turtle management. A large number of concerns have also been collected from these discussions. Some of

these include wasting of meat, over-hunting, and changes in dugong and turtle numbers. Pearson is aiming to hold meetings on Thursday and Prince of Wales Islands in the near future.

The aim is to develop one Kaiwalagal management plan that covers all the inner islands. If you want to find out more, you can call Pearson on his mobile 0447 832 423.

## Project Officer Profile - David Amber, Mabuiag Ranger

This edition's Project Officer profile is on David Amber, a Ranger on Mabuiag Island. David has been involved in Dugong and Turtle Project training events as well as in the development of the Mabuiag Management Plan. This profile is taken from an interview with David at Dowar.

"I am David Amber from Mabuiag, My clan is Koedal tribe from Wagadagam. Wagadagam tribe look after dugong augadh (totem) and kaigas (shovel-nose ray) augadh (totem), and the Chief from the whole island comes from here. I am a descendent of this tribe". When asked about what he has got out of being involved in the Project,

David said, "it is good to get experiences this kind from the University on looking after dugong and turtle".

We (Mabuiag) also share our hunting areas with St Pauls, Kubin and Badu. We want to manage this hunting together so there is still dugong and turtle for future generations.

"I have been involved in the Project because I work as a Ranger. Stephen Amber from Hammond Island assisted us to start the ranger program. I put my hand up to be a ranger at Mabuiag and its good to get experience and knowl-

edge to look after your cultural things".

"Here at Mer Island, this is my Aka's land, and I have come to visit my other family as well. Dowar is also my Aka's land and I am very proud to be here to do turtle work on the island."

"The message I want to pass onto my people at Mabuiag is try to use the old way where people share the resource". All Torres Strait can work together on this.

If you want to contact David please call Mabuiag Council on 4069 4184.



**David Amber preparing a turtle for satellite tagging at Mer. Photo by Lachlan**